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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/667,235	BAGGETT ET AL.	
	Examiner	Art Unit	
	SHANNON S. SALIARD	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 August 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,56,141-149,152-166,169 and 170 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,56,141-149,152-166,169 and 170 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Status of Claims

Allowable Subject Matter

1. The indicated allowability of claims 56, 145-149, 156-159, and 161-165 are withdrawn in view of the newly discovered reference(s) to Lore et al [US 2002/0099691], Sitaraman et al [US 2006/0253896], Warwick et al [US 2005/0034135], Jilk, Jr. [US 2002/0010746], Heidorn et al [US 6,098,081], and/or Tedesco et al [US 6,349,295]. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 1, 56, 141-149, 152-166, and 169-171** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 56, 141-149, 152-166, and 169-171 are directed to a series of steps.

In order for a series of steps to be considered a proper process under § 101, a claimed process should either: (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials).

Diamond v. Diehr, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). Thus, to qualify as patent eligible, these processes must positively recite the other statutory class to which it is tied (e.g., by identifying the apparatus the accomplishes the method steps), or positively

recite the subject matter that is being transformed (e.g., by identifying the product or material that is changed to a different state). Claims 1, 56, 141-149, 152-166, and 169-171 identify neither the apparatus performing the recited steps nor any transformation of underlying materials, and accordingly are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 56** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Hussey [US 5,826,269], Tock [US 2004/0064570], and Lore et al [US 2002/0099691].

As per **Claim 56**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information based at least in part on one or more factors associated with one or more of the requestors, the requestor queries, the requested airline availability information, and the airline availability information sources, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32; and

providing information to the requestors in accordance with the determining, see figure 9.

DeMarcken et al does not disclose receiving queries from requestors for airline availability information;

prioritizing the requestor queries; and
processing the requestor queries in accordance with the associated priorities.

However, Hussey discloses prioritizing requestor queries in association with the given priority [col 2, lines 1-8]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the process of prioritizing requestor queries as disclosed by Hussey into the method of querying information sources of DeMarcken et al since the combination achieves the predictable result of prioritizing queries.

DeMarcken et al, Hussey, and Tock do not disclose encoding multiple priorities into a mathematical function that assigns a combined priority value to units of cached airline availability information, and updating the cached airline availability information according to the associated combined priority values. However, Lore et al discloses encoding multiple priorities into a mathematical function that assigns a combined priority value to cached information, and updating the cache according to the associated combined priority values [0167]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include encoding multiple priorities into a mathematical function that assigns a combined priority value to cached information, and updating the cache according to the associated combined priority values as disclosed by Lore et al into the method of querying information sources of DeMarcken et al since the combination achieves the predictable result of prioritizing the cache values that require updating.

6. **Claims 145 and 146** are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Sitaraman et al [US 2006/0253896].

As per **claim 145**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

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receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9; and

querying one or more information sources through one or more proxies, see page 7, lines 9-15.

DeMarcken et al does not disclose monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status.

However, Sitaraman et al discloses monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status [0032]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to select a proxy for querying based on the monitored operational status as taught by Sitaraman et al since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claim 146**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28,

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page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9; and

querying one or more information sources through one or more proxies, see page 7, lines 9-15.

DeMarcken et al does not disclose monitoring response times for the one or more proxies and selecting proxies for querying based at least on the response time. However, Sitaraman et al discloses monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status [0032]. Since, the workload on the proxy affects the response time of the proxy (i.e., the higher the workload, the slower the response time), it would have been obvious to utilize the response time to select a proxy to query. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to select a proxy for querying based on the monitored operational status as taught by Sitaraman et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

7. **Claim 147** is rejected under 35 U.S.C. 103(a) as being unpatentable over

DeMarcken et al (WO 00/46715) in view of Warwick et al [US 2005/0034135].

As per **claim 147**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

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determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9; and

querying one or more information sources through one or more proxies, see page 7, lines 9-15.

DeMarcken et al does not disclose maintaining a list of unsupported suppliers for which information is not available on one of the information sources and returning queries for information from the unsupported suppliers without querying an information source.

However, Warwick et al discloses receiving a request for information from a unsupported supplier and returning queries for information from the unsupported suppliers without querying an information source [0025]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to return queries for information from the unsupported suppliers without querying an information source as taught by Warwick et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

8. **Claims 148 and 149** are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Jilk, Jr. [US 2002/0010746].

As per **claim 148**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9;

proactively generating one or more queries independent of requestor queries, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32; and

DeMarcken et al does not disclose maintaining proxy records for available proxies in a proxy queue and removing a higher priority proxy record from the proxy queue to process a query.

However, Jilk, Jr. discloses maintaining proxy records for available proxies in a proxy queue and removing a higher priority proxy record from the proxy queue to process a query [col 14, lines 31-57]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to remove a higher priority proxy record from the proxy queue to process a query as taught by Jilk, Jr. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claim 149.**

DeMarcken et al does not disclose further comprising maintaining a proxy queue as part of a query priority queue. However, Jilk, Jr. discloses maintaining proxy records for available proxies in a proxy queue and removing a higher priority proxy record from the proxy queue to process a query [col 14, lines 31-57]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the

ability to remove a higher priority proxy record from the proxy queue to process a query as taught by Jilk, Jr. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

9. **Claim 156** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Heidorn et al [US 6,098,081].

As per **claim 156**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9; and

Communicating with at least a portion of the one or more airline availability information sources through proxies, see page 7, lines 9-15.

Demarcken et al does not disclose whereby the proxies interface with the at least a portion of the one or more airline availability information sources using airline availability information source specific codes. However, Hiedorn et al discloses a proxy that interface with an information source using a format (i.e. specific code) that is understood by the information source (col 7, lines 34-57). It would have obvious been obvious and well within the capabilities of one of ordinary skill in the art at the time of the invention to take utilize the function of the proxy in Hiedorn et al and incorporate that

function into the modified invention of DeMarcken et al to yield the predictable outcome of translating information between a proxy and a information source.

10. **Claim 157** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Heidorn et al [US 6,098,081] as applied to claim 156 above, and in further view of Sitaraman et al [US 2006/0253896] and Jilk, Jr. [US 2002/0010746].

As per **claim 157**.

DeMarcken et al does not disclose measuring one or more response characteristics associated with the proxies;

Prioritizing the proxies according to the response characteristics measurements; and

Maintaining a proxy priority queue whereby queries are passed to higher priority proxies

However, Sitaraman et al discloses monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status [0032]. Since, the workload on the proxy affects the response time of the proxy (i.e., the higher the workload, the slower the response time), it would have been obvious to utilize the response time to select a proxy to query. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to select a proxy for querying based on the monitored operational status as taught by Sitaraman et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Furthermore, Jilk, Jr. discloses maintaining proxy records for available proxies in a proxy queue and removing a higher priority proxy record from the proxy queue to process a query [col 14, lines 31-57]. It would have been obvious to one of ordinary

skill in the art to include in the querying system of DeMarcken et al the ability to remove a higher priority proxy record from the proxy queue to process a query as taught by Jilk, Jr. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

11. **Claim 158** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Heidorn et al [US 6,098,081] as applied to claim 156 above, and in further view of Warwick et al [US 2005/0034135].

As per **claim 158**.

DeMarcken et al does not disclose identifying one or more airline availability information source that proxies cannot communicate with; and

Filtering out queries directed to the identified airline availability information source.

However, Warwick et al discloses identifying one or more airline availability information source that proxies cannot communicate with; and filtering out queries directed to the identified airline availability information source [0025]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to filter out queries directed to information sources that the proxies cannot communicate with as taught by Warwick et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

12. **Claim 159** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Heidorn et al [US 6,098,081] as applied to claim 156 above, and in further view of Sitaraman et al [US 2006/0253896].

As per **claim 159**.

DeMarcken et al does not disclose monitoring an operational status of the one or more proxies and optimizing use of proxies based on the operational status of the proxies.

However, Sitaraman et al discloses monitoring an operational status of the one or more proxies and optimizing use of proxies based on the operational status of the proxies [0032]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to optimize a proxy for querying based on the monitored operational status as taught by Sitaraman et al since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

13. **Claim 161** is rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Tedesco et al [US 6,349,295].

As per **claim 161**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9;

proactively generating one or more queries independent of requestor queries, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32; and

sending one or more proactively generated queries to an airline availability information source and caching information returned therefrom, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32.

DeMarcken et al does not disclose generating background threads that pose queries that appear to come from requestors.

However, Tedesco et al discloses generating background threads that query sources automatically [Abstract; col 4, lines 33-44]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to generate background threads that pose queries that appear to come from requestors as taught by Tedesco et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

14. **Claims 162 and 164** are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Warwick et al [US 2005/0034135].

As per **claim 162**.

DeMarcken et al discloses:

querying one or more airline availability information sources for airline availability information, see abstract, page 7, lines 1-28, page 9, line 19 - page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

receiving the requested airline availability information from one or more airline availability sources, see page 9, line 19 - page 12, line 3;

caching the received airline availability information, see page 9, line 19 - page 12, line 3;

determining to provide requestors with at least one of real-time airline availability information and cached airline availability information, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32;

providing information to the requestors in accordance with the determining, see figure 9;

proactively generating one or more queries independent of requestor queries, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32; and

sending one or more proactively generated queries to an airline availability information source and caching information returned therefrom, see abstract, page 7, lines 1-28, page 9, line 19- page 12, line 3, page 12, line 32- page 13, line 34, page 15, line 16 - page 16, line 32.

DeMarcken et al does not disclose filtering one or more queries out of proactive caching. However, Warwick et al discloses filtering out queries directed [0025]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to filter out queries as taught by Warwick et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claim 164.**

DeMarcken et al does not disclose the filtering step includes filtering out queries related to flights on unsupported carriers.

However, Warwick et al discloses identifying one or more airline availability information source that proxies cannot communicate with; and filtering out queries directed to the identified airline availability information source [0025]. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to filter out queries directed to information sources that the

proxies cannot communicate with as taught by Warwick et al and include the response time since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

15. **Claims 163 and 165** are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al (WO 00/46715) in view of Official Notice.

As per **claim 163**.

DeMarcken et al does not disclose the filtering step includes filtering out queries related to airline flights for which fares are not available. However, the Examiner takes Official Notice that it is old and well known in the art at the time of the invention to not return replies to a user when there is not information regarding that information available from the information source. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to filter out queries related to flights for which fares are not available as known in the art since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claim 165**.

DeMarcken et al does not disclose the filtering step includes filtering out queries related to flights that users are not expected to request. However, the Examiner takes Official Notice that it is old and well known in the art at the time of the invention to filter out queries related to information that a user is not expected to request. For example, it

is known to update a query by most frequently used information. If the cache is updated for information that is most frequently used, the least frequently used information (i.e., information that users are not expected to request) will not be updated. It would have been obvious to one of ordinary skill in the art to include in the querying system of DeMarcken et al the ability to filter out queries related to flights that users are not expected to request as known in the art since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Allowable Subject Matter

16. **Claims 1, 141-144, 153-155, 160, 162-166, and 169-171** are allowed over the prior art.

As per **claim 1**.

DeMarcken et al discloses a storage of time before departure, see pg. 13, lines 6-11 and figure 8.

The prior art of record, specifically, DeMarcken et al, Jafri et al, Ahlstrom et al, and Harris et al do not disclose rounding-up actual departure times for flights, providing at least the rounded-up actual departure times to a hashing function, and storing information associated with the flights in a hash table based on resulting rounded-up hash table indexes;

rounding-down actual departure times for each flight, providing at least the rounded-down actual departure times to the hashing function, and storing information associated with the flights in the hash table based on resulting rounded-down hash table indexes;

permitting a requestor to specify approximate departure times in a request for airline availability information;

searching a cache for requested airline availability information, including, rounding-up a requestor-specified departure time, providing the rounded-up requestor-specified departure time to the hash function, and searching the hash table based on a resulting hash table index, and rounding-down the requestor-specified departure time, providing the rounded-down requestor-specified departure time to the hash function, and searching the hash table based on a resulting hash table index.

As per **Claim 141.**

DeMarcken et al further discloses a storage of time before departure, and a threshold detector for minutes, hours or days, see page 13, lines 6-11 and figure 8.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

ordering the proactive queries within buckets at least according to ages of previously cached information data associated with the proactive queries;

re-bucketing the proactive queries as their associated time-to departures change; and

selecting a bucket for processing according to the ordering of the buckets, and processing proactive queries within the selected bucket, skipping proactive queries for which information is presently cached and the newer than a predetermined age.

As per **Claim 153.**

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

sharing flight availability count record between a plurality of flight records stored in a cache.

As per **Claim 154.**

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

associating multiple flight records as married flight records in a cache; and sharing flight availability count record between at least one of the multiple flight records and another flight record in the cache.

As per **Claim 155**.

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

searching for cached information after waiting a predetermined time for real-time information.

As per **Claim 160**.

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

simulating replies from the proxies.

As per **Claim 162**.

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

filtering one or more queries out of proactive caching.

As per **Claim 166**.

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

proactively generating queries independent of requestor queries and assigning priority to the proactively generated queries according to a total number of seats available.

As per **Claim 169**.

DeMarcken et al further discloses:

identifying one or more factors associated with availability status, page 9, lines 9-12.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

learning a relationship between historical value for one or more factors and historical values for availability factors;

generating a function according to the learned relationship;

providing new values for the one or more factors to the function, whereby the function outputs predicted values for availability status.

As per **Claim 170**.

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

separating and prioritizing sub-queries of a first and second user with one another;

placing the one or more sub-queries in a priority queue and ordering them according to associated times of receipt, resolving priority disputes between simultaneously received queries so that higher priority sub-queries are processed before lower priority sub-queries;

processing the sub-queries according to their associated priorities.

As per **Claim 171.**

DeMarcken et al further discloses a cache.

The prior art of record, specifically DeMarcken et al, Jafri et al, Ahlstrom et al and Harris et al do not disclose or fairly teach:

monitoring airline availability information traffic between an airline availability information source and one or more clients of the airline availability information source;

caching at least a portion of the monitored airline availability information traffic;

determining a likelihood that information will be received within a period of time by the monitoring; and

generating proactive queries for information not likely to be received within the period of time.

The claims that depend from the above allowed claims are allowable for the same reasons.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANNON S. SALIARD whose telephone number is (571)272-5587. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Shannon S Saliard
Examiner
Art Unit 3628

/S. S. S./
Examiner, Art Unit 3628

/John W Hayes/
Supervisory Patent Examiner, Art Unit 3628